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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/534,252

05/10/2005

Daichi Imamura

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EXAMINER

DAVENPORT, MON CHERI S

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

### Application No.

10/534,252

### Applicant(s)

IMAMURA ET AL.

### Examiner

Mon Cheri S. Davenport

### Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 8/10/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08) ✓  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-48** rejected under 35 U.S.C. 102(e) as being anticipated by Takanashi et al. (US Patent Application publication 2004/0213566).

Regarding **Claim 1 and 11** Takanashi et al. disclose a radio communication apparatus, which can perform radio communication with a communication terminal device of another party, comprising:

a reception section that receives signals transmitted from the radio communication apparatus of another party( see [0022], receives WDM signals from optical channels);

a channel time variation detection section that detects the time variation amount of channel response using the signals received by the reception section( see [0022] detection of pilot signals in the received WDM signal channels); and

a pilot signal insertion interval determination section that determines pilot signal insertion intervals using the detected time variation amount of channel response( see [0023], transmits , pilot signals data unique to WDM signal channel).

Regarding **Claim 2 and 12** Takanashi et al. discloses everything as applied above (*see claim 1*). In addition the apparatus includes:

a pilot signal insertion section that inserts said pilot signals into information signals to be transmitted, based on said pilot signal insertion intervals determined by said pilot signal insertion interval determination section( see [0024], pilot signal adding section); and

a transmission section that transmits information signals into which said pilot signals have been inserted to said radio communication apparatus of another party( see [0024], pilot signal transmitting means for framing signal containing and overhead and a payload) .

Regarding **Claim 3 and 13** Takanashi et al. discloses everything as applied above (*see claim 1*). In addition the apparatus includes:

an information signal division section that divides said information signals to be transmitted based on said pilot signal insertion intervals determined by said pilot signal insertion interval determination section( see [0026], , pilot signal detecting filter section, measures a spectrum of each WDM optical channel) ;

a pilot signal insertion section that inserts said pilot signals into post-division information signals which have been divided by the information signal division section( see [0028], pilot signal data which is unique to WDM optical channel is transmitted ); and

a transmission section that transmits said information signals into which pilot signals have been inserted to said radio communication apparatus of another party( see [0028], pilot signal which are inserted are transmitted to a second WDM communication apparatus).

Regarding **Claim 4 and 14** Takanashi et al. discloses everything as applied above (*see claim 1*). In addition the apparatus includes:

an information signal processing section that processes post-division information signals which have been divided ( filtered) by said information signal division section ( see [0032], pilot signal detecting filter section, which processes the pilot signals);

an information signal merging section that merges post-division information signals which have been processed by said information signal processing section ( see [0037], WDM signals are converted into electric signals, reads on merging);

a pilot signal insertion section that inserts said pilot signals into information signals which have been merged by said information signal merging section, based on said pilot signal insertion interval determined by said pilot signal insertion interval determination section( see [0037], unique pilot signal data component inserts pilots signals); and

a transmission section that transmits said information signals into which pilot signals have been inserted to said radio communication apparatus of another party( see [0038], pilot signal is transmitted ).

Regarding **Claims 5, 7, 15 and 17** Takanashi et al. discloses everything as applied above (*see claims 4, 6, 14 and 16*). In addition the apparatus includes:

a division length determination section that determines the division length of said information signals in said information signal division section, wherein( see [0026], means for measuring the spectrum of each WDM optical signal channel):

the division length determination section is constructed to enable determination of said information signal division length using said time variation amount of channel response ( see [0026], the spectrum measuring means of the WDM channels , according to the amplitude information of the pilot signals data component which passes through the pilot signal detecting filter section) .

Regarding **Claim 6 and 16** Takanashi et al. discloses everything as applied above (*see claims 1 and 11*). In addition the apparatus includes:

a first information signal division section that divides said information signals to be transmitted( see [0026], means for measuring the spectrum of each WDM optical signal channel) ;

an information signal processing section that processes post-division information signals which have been divided by said information signal division section(see [0028], pilot signal data which is unique to WDM optical channel is transmitted and evaluated) ;

an information signal merging section that merges post-division information signals processed by said information signal processing section(see [0037], WDM signals are converted into electric signals, reads on merging);

a second information signal division section that divides information signals merged by said information signal merging section, based on said pilot signal insertion interval determined by said pilot signal insertion interval determination section ( see [0026], pilot signal filter section) ;

a pilot signal insertion section that inserts said pilot signals into post-division information signals which have been divided by the second information signal division section( see [0024], pilot signal adding section); and

a transmission section that transmits said information signals into which pilot signals have been inserted to said radio communication apparatus of another party( see [0028], pilot signals data which is unique to the object WDM optical channel is transmitted to a second DM communication apparatus).

Regarding **Claim 8 and 18** Takanashi et al. discloses everything as applied above (*see claims 1 and 11*). In addition the apparatus includes:

comprising a transmission section that transmits said pilot signal insertion intervals to notify said radio communication apparatus of another party of said pilot signal insertion interval determined by said pilot signal insertion interval determination section( see [0028], signals are transmitted to a second WDM communication apparatus which included the unique pilot signal data ).

Regarding **Claim 9, 19, 21-27, and 35-41** Takanashi et al. discloses everything as applied above (*see claim 1 and 11*). In addition the apparatus includes:

wherein said channel time variation detection section is constructed so as to detect said time variation amount of channel response using signals known to both the transmitter side and the receiver side ( see [0040], WDM signals on multiple channels are known and are divided into several groups) .

Regarding **Claim 10, 20, 28-34, and 42-48** Takanashi et al. discloses everything as applied above (*see claims 1 and 11*). In addition the apparatus includes:

wherein said channel time variation detection section is constructed so as to detect said time variation amount of channel response using signals which are not known to at least one of either the transmitter side or the receiver side( see [0034], holder circuit for holding amplitude information of the individual WDM optical channel separately).

### ***Conclusion***

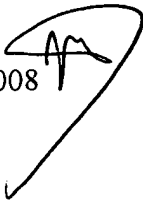
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mon Cheri S. Davenport whose telephone number is 571-270-1803. The examiner can normally be reached on Monday - Friday 8:00 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MD/md

January 5, 2008



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